Phillips Puerto Rico Core

EPA ID Number: PRD991291972

Other (Former) Names of Site

Durand / Learned Plant

Site Description

Phillips Puerto Rico Core (PPRC) plant is located on Road 710, km 1.3, approximately 2.5 miles southwest of Guayama, Puerto Rico, and northeast of Las Mareas Harbor. PPRC has operated at the Guayama site since 1966. The Guamani River (Rio Guamani) crosses at a distance varying from approximately 1,000 to 3,000 feet from the east side of the plant property. The site is bounded to the east and west by sugar cane fields.

PPRC is a petroleum refinery and its operations produce gasoline from crude oil distillation which contains benzene, toluene, ethyl benzene, and xylene (BTEX). PPRC has generated these hazardous wastes in its tank cleaning process and has discharged these wastes, following treatment, under an existing water discharge permit.

In 1986, a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) conducted by EPA revealed that BTEX contamination existed in the soil and groundwater at the facility. This contamination was initially detected in the up gradient well that is part of the groundwater monitoring system for the facility's Hazardous Waste Management Unit (HWMU). Subsequent investigations revealed that this contamination was the result of former storage and treatment practices and that the contamination is originating from a product storage area.

Site Responsibility

Cleanup at this site is being addressed by the U.S. Environmental Protection Agency (EPA), under authority of the of the Resource Conservation and Recovery Act (RCRA). However, the Puerto Rico Environmental Quality Board (EQB) participates with EPA in cleanup decision-making and oversight. In September 1995, EPA and PPRC signed an Administrative Consent Order (ACO) outlining four specific activities to be performed: Interim Measures (IM), RCRA Facility Investigation (RFI), Corrective Measure Study (CMS) and Corrective Measure Implementation (CMI).

Threats and Contaminants

The sources of contamination at the facility were identified during an RFI to determine the nature and extent of the contamination. The result of the investigation concluded that contamination was found in soil and groundwater beneath PPRC facility. The major contaminants are floating products/hydrocarbons, benzene, toluene, ethyl benzene, xylene (BTEX). These contaminants are also migrating off-site to the east and west cane fields that bound the PPRC property.

CLEANUP APPROACH

Cleanup Status/Corrective Action

The site is being addressed by Phillips Puerto Rico Core (PPRC) under EPA oversight in three measures: closure of surface impoundments, Interim Corrective Measures (ICM) and long-term corrective measures directed at cleanup of the entire site.

Response Action Status

Interim Corrective Measures (ICMs)

Onsite "hot spots" of contaminated soils and sediments/sludges which act as source of contamination to the groundwater have been removed. The floating products/hydrocarbons beneath the facility are being removed by a combination of systems that withdraw floating products/hydrocarbons from 23 wells, as well as by air sparging interceptor trench systems, that reduce the BTEX concentration in groundwater. Both systems have helped to reduce offsite migration of contaminated groundwater.

EPA groundwater sampling audit

Over 6,000 gallons of free product are recovered per month by the enhanced fluid recovery system. Over 260,000 gallons of free product/hydrocarbons have been recovered and recycled back into the facility's process stream since the operation started in August 1996. In May 2000, Phillips Puerto Rico Core (PPRC) will propose how it intends to remove the remaining free product in the groundwater.

Closure of surface impoundments

There are four surface impoundments which are major sources of contamination at the facility. PPRC has submitted closure plans for EPA's review . Due to recent Federal Regulations, the closure of two of the impoundments will be closed under the site-wide corrective effort. The remaining two impoundments will be clean closed. The closures will entail removal of the contaminated soil/sludge and cleanup of the contaminated groundwater beneath the impoundments.

Entire Site

A site-wide effort for cleanup will address the soil and groundwater contamination as well as prevent the migration of contaminated groundwater off the Phillips Puerto Rico Core (PPRC) facility. In July 1999, PPRC submitted a report presenting results and recommendations following the rigorous program of soil and groundwater investigation that has been completed. In May 2000, PPRC will submit the Corrective Measures Study Work Plan to EPA. This work plan will evaluate potential technologies that will be used to cleanup the entire site.

Cleanup Progress

Over 200,000 gallons of floating free product on the groundwater underlying the facility have already been recovered and recycled back into the facility's process stream. Onsite "hot spots" of contaminated soils and sediments/sludges contributing to the groundwater contamination have been removed. Off-site migration of hydrocarbons is now reduced through the program of actively recovering free product. A site-wide program to cleanup the site will be implemented after the corrective measure study.

Permit Status

Phillips Puerto Rico Core has a Resource Conservation and Recovery Act (RCRA) permit for its above ground tank and storage system.

Site Repository

Copies of supporting technical documents and correspondence cited in the fact sheet are available for public review at the following location:

U.S. Environmental Protection Agency, Region 2
RCRA Records Center
290 Broadway, 15th Floor, Room 1538
New York, New York 10007-1866
Telephone: (212) 637-3043